



## CURRICULUM VITAE

**Name** : PIETER VAN GROEN

**Year of birth** : 1942

**Nationality** : Netherlands

### Education

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- 1962 B.Sc. Civil Engineering  
College of Advanced Technology, Amsterdam, the Netherlands
- 1970 M.Sc. Civil Engineering,  
Delft University of Technology, the Netherlands.

### Employment record

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- 2003 - present • Freelance Consultant and Advisor for EDC
- 1998 - 2003 • Senior Design Engineer, Hydronamics BVB, Boskalis, the Netherlands
- 1970 - 1998 • Research Engineering Consultant, Delft Hydraulics, the Netherlands
- 1969 - 1970 • Junior Engineer, Delft University of Technology, the Netherlands
- 1964 - 1969 • Design Engineer, Freelance Consultant

### Experience record

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- 2017 – 2018 • **Bangladesh**  
**Name of assignment or project:** FRERMIP Technical advice on river stabilization program of Jamuna and Padma rivers. Assistance in design of closure dams of side channels.  
**Client:** BWDB  
**Main project features:** Review and advice of Bangladesh documents on Capital Dredging Program. Advice on dredging requirements for river stabilization program. Detailed design of closure dams of side channels.  
**Position held:** Dredging specialist  
**Activities performed:** study, advice, detailed design
- 2016 • **Rwanda Kigali**  
**Name of assignment or project:** Design of reclamation of a swamp wetland strip, minimizing of environmental impacts  
**Client:** Kamunye  
**Main project features:** Fundamental research  
**Position held:** Ecodredging consultant  
**Activities performed:** study, pre-design



- 2015
- **Senegal**  
**Name of assignment or project:** Research and technical assistance for the dredging of the Casamance River Senegal  
**Client:** RVO  
**Main project features:** Fundamental research  
**Position held:** Ecodredging Consultant  
**Activities performed:** Dredging and rivertraining aspects
- 2007 – 2010
- **Bangladesh, Lower Meghna/Bay of Bengal**  
**Name of assignment or project:** Estuary Development Programme  
**Client:** BWDB  
**Main project features:** Design and Construction of cross-dams between various islands and chars for the acceleration of accretion. Impact of dams on hydro-morphological conditions were analysed in models to find the best location and combination of cross-dams to accelerate accretion in the Bay at minimum costs. Also critical construction phases and erosion protective measures were analysed as part of the study. The dam in the Rustom channel near Char Montaz has been constructed. From other dams designs have been made up to various levels.  
**Positions held:** Design Engineer  
**Activities performed:** study, design, supervision of construction, hydro-morphological modelling work.
- 2007 – 2009
- **Sweden**  
**Name of assignment or project:** Construction of a new container harbour  
**Client:** SWECO  
**Main project features:** Study on special dredging techniques to minimize environmental impact of constructing a new container harbour near Stockholm.  
**Position held:** Eco-dredging Consultant  
**Activities performed:** Advice on dredging method (selection of equipment and disposal site), development of optimal environmental working method.
- 2006
- **Ecuador**  
**Name of assignment or project:** Paute dredging  
**Client:** Ministry of Energy  
**Main project features:** Preparation for an EIA study regarding dredging a reservoir of a hydropower plant in the Andes. The reservoir capacity has been reduced by regular siltation and sometimes seismic activities causing landslides. As a consequence the power plant could not be operated to its full capacity anymore. Main problem of dredging in this project is the lack of disposal sites.  
**Position held:** Dredging Specialist  
**Activities performed:** Site visit, study on working method of capital dredging.
- 2006
- **Mozambique, Beira Port**  
**Name of assignment or project:** Design of Beira Port  
**Location of study:** The Netherlands  
**Client:** P.A. Beira  
**Main project features:** Optimization of dredging method.  
**Position held:** Design Engineer  
**Activities performed:** Designing for Beira Port the approach channel lay out and selecting locations for deposits of dredged sediments.
- 2006
- **The Netherlands**  
**Name of assignment or project:** River training works in the Dutch river system.

**Client:** Rijkswaterstaat

**Main project features:** To innovate designs of groins for updating river training works in the Dutch river system. The 150 year old groins need renovation. New climate conditions ask for rethinking of the designs. Via an international prize completion new designs were collected and scrutinized by the jury.

**Position held:** Member of the jury

**Activities performed:** evaluating innovative designs of groins for updating river training works in the Dutch river system.

2006

- **The Netherlands**

**Name of assignment or project:** North Sea pipeline between UK and the Netherlands.

**Client:** Rijkswaterstaat

**Main project features:** Designing the lay-out and computing the infill of the trench

**Position held:** Design Engineer

**Activities performed:** Computations on the sedimentation of the trench

2005

- **Bangladesh**

**Name of assignment or project:** Fertilizer Plant in Sangu River

**Client:** Tata Consortium

**Main project features:** Designing land reclamation works and mooring facilities for a fertilizer plant along the Sangu River.

**Position held:** River Engineer

**Activities performed:** Feasibility study

2005

- **Maldives**

**Name of assignment or project:** EIA study on restoration of tsunami damage

**Client:** Govt of Maldives

**Main project features:** Enlarging, raising and strengthening of Vilufushi Island by capital dredging.

**Position held:** Hydro-morphologist

**Activities performed:** Executing the hydro-morphological part of the EIA study for the post-tsunami reconstruction of Vilufushi island in the Thaa atoll.

2004

- **The Netherlands**

**Name of assignment or project:** 't Joppe, the Netherlands.

**Client:** Dredging Consortium

**Main project features:** Study on sand mining in a lake under stringent environmental conditions (minimum spill of fines).

**Position held:** Dredging Specialist/morphologist

**Activities performed:** Development of most environmental friendly dredging method.

2004

- **Azerbaijan**

**Name of assignment or project:** Restoration of Kura Delta

**Client:** World Bank

**Main project features:** To develop a (dredging) solution for the restoration of the Kura Delta, improving the habitat of sturgeon.

**Position held:** Design Engineer

**Activities performed:** Site visit and study on impact of capital dredging on behaviour of the river delta.

2004 - 2006

- **USA**



- Name of assignment or project:** Restoration of the Salton Sea  
**Client:** Dredging Consortium  
**Main project features:** To develop an alternative solution for the restoration of the Salton Sea in California.  
**Position held:** Design Engineer  
**Activities performed:** Site visits and feasibility study
- 2003
- **The Netherlands**  
**Name of assignment or project:** Grensmaas  
**Client:** Dredging Consortium  
**Main project features:** Dredging of the Meuse River for River Management including flood control, environmental development and gravel mining. With the aid of hydro-dynamic modelling the work method was determined. Especially the flood control during subsequent construction phases was a crucial topic.  
**Position held:** Design Engineer  
**Activities performed:** Study on hydro-morphological aspects of dredging interventions.
- 2003
- **USA**  
**Name of assignment or project:** Dredging Key West Channel  
**Client:** Army Corps of Engineers  
**Main project features:** Preparation of a dredging project to clean up a navigation channel through a marine sanctuary (Key West, Florida) under the most stringent environmental requirements.  
**Position held:** Dredging Specialist  
**Activities performed:** Design of critical dredging methodology.
- 2002
- **Surinam**  
**Name of assignment or project:** Feasibility study of bauxite mining partly under the Surinam River  
**Client:** Suralco  
**Main project features:** Short-cutting the river to obtain access to the mining area.  
**Position held:** River Engineer  
**Activities performed:** Design the Kaiman Grasi navigation canal . Design of the short-cut in the river to by-pass the mining area.
- 2002
- **Portugal**  
**Name of assignment or project:** ICZM Algarve  
**Client:** Tourist Consortium  
**Main project features:** Study on the technical feasibility of sand nourishment for erosion control in the context of Integrated Coastal Zone Management for the coast of Algarve.  
**Position held:** Dredging Advisor  
**Activities performed:** Site visit and advice
- 2002
- **India.**  
**Name of assignment or project:** Survey and study on mitigating measures in the Hooghly estuary.  
**Client:** P.A. Haldia  
**Main project features:** Improve the accessibility of Haldia port.  
**Position held:** Morphologist  
**Activities performed:** Feasibility study
- 2002
- **Trinidad.**

- Name of assignment or project:** Study on aspects of dredging for land reclamation in the Gulf of Paria  
**Client:** LNG Consortium  
**Main project features:** Land reclamation with a minimum of spill.  
**Position held:** Morphologist  
**Activities performed:** Site visit and outlining the working method
- 2001 - 2002
- **Mexico**  
**Name of assignment or project:** Several port extensions in Mexico  
**Client:** Dredging Consortium  
**Main project features:** Missions to several ports in Mexico to review the design of port extensions and comment on the related studies and study programmes.  
**Position held:** Dredging Expert and Coastal Morphologist  
**Activities performed:** Site visits and conceptual studies
- 2001
- **Bangladesh**  
**Name of assignment or project:** Closure Hatia-Nijhum Channel  
**Client:** Dredging Consortium  
**Main project features:** : Feasibility study on the closure of a tidal channel south of Hatia Island. The survey was focussing on hydraulics for cross-dam design and subsoil characteristics to find suitable sediments for closure by dredging.  
**Position held:** Design Engineer  
**Activities performed:** Survey and study
- 2000
- **Bangladesh**  
**Name of assignment or project:** Reactivating the Old Brahmaputra  
**Client:** Dredging Consortium  
**Main project features:** Feasibility study on experimental dredging of the off-take area of the Old Brahmaputra. The purpose of improving the off-take area in the Jamuna was to get a more regular flow in the Old Brahmaputra.  
**Position held:** Team leader  
**Activities performed:** Survey and study
- 1998 - 2001
- **Bangladesh**  
**Name of assignment or project:** Gorai River Re-excavation Project  
**Client:** BWDB  
**Main project features:** Keeping the river flowing full year around.  
**Position held:** Site Engineer  
**Activities performed:** Reshaping the low water bed of the Gorai river by cutter suction dredging. As a consequence of the design and construct contract the design work had to be done at site. The interaction of river and dredging were analysed with extensive survey data and mathematical modelling.
- 1998
- **The Netherlands**  
**Name of assignment or project:** Hydro-morphological modelling with SOBEK and DELFT-3D packages.  
**Client:** Public Works Department  
**Main project features:** software design for Hydro-morphological modelling  
**Position held:** River modeller  
**Activities performed:** Software development
- 1997
- **UAE**  
**Name of assignment or project:** Supervision of a tidal survey  
**Client:** Min. of Energy

- Main project features:** Data collecting for scale modelling  
**Position held:** surveyor/modeller  
**Activities performed:** Involved in training on survey techniques, data evaluation and set-up of a database for calibration of a hybrid tidal model set.
- 1997
- **People's Republic of China.**  
**Name of assignment or project:** Inland waterway project of China (IWW II)  
**Client:** Min. of Transport  
**Main project features:** Contribution in the inland waterway project of China (IWW II) regarding technical infra-structural aspects like waterway capacities, lock condition and navigational safety.  
**Position held:** IWT specialist  
**Activities performed:** site visits, advisory work
- 1991 - 1996
- **Bangladesh.**  
**Name of assignment or project:** River Survey Project (FAP24)  
**Client:** BWDB  
**Main project features:** The project aimed at improving the knowledge of the hydrological and morphological processes of the main rivers, like the Brahmaputra, Ganges and the Meghna, by extensive surveying and studies, emphasising the extreme flood stages. To cope with the extreme conditions vessels, equipment, instruments and working methods had to be adjusted. For instance the ADCP has been successfully applied as a current profiler.  
**Position held:** Team Leader  
**Activities performed:** Running an 80 person team with main office in Dhaka, some guesthouses along rivers and a survey fleet.
- 1989 - 1990
- **Bangladesh**  
**Name of assignment or project:** Bank protection and river Training Pilot Project (FAP21/22)  
**Client:** BWDB  
**Main project features:** Study Design and construction of pilot river training works for river training including erosion control. The project focussed on river training of the Jamuna River amongst others by creating hard points along the river, For these points various structures have been designed such as pile screens, bricks in metal nets, bamboo screens etc. A number of these structures has been implemented on a pilot basis in the river stretch between Bahadurabad and Kamerjani.  
**Position held:** Senior River Engineer  
**Activities performed:** The tasks included site selection, design and evaluation of surface screens and other low cost, recurrent measures applied for active Flood Plain Management in the Jamuna river.
- 1990 - 1991
- **The Netherlands**  
**Name of assignment or project:** Research on low cost waterway maintenance techniques.  
**Client:** Delft Hydraulics  
**Main project features:** Fundamental research  
**Position held:** River Engineer  
**Activities performed:** Study
- 1990
- **The Netherlands**  
**Name of assignment or project:** Impact on Rotterdam Bridge  
**Client:** Public Works Department



**Main project features:** Morphological study on the impact of the construction of a bridge in the tidal waters near Rotterdam.

**Position held:** River Engineer/Morphologist

**Activities performed:** Desk study

1987 - 1990

• **Thailand and Laos**

**Name of assignment or project:** Mekong data network

**Client:** Mekong Secretariat

**Main project features:** Optimization of measuring network in Mekong River basis

**Position held:** River Engineer

**Activities performed:** Assistance to the Mekong Secretariat with respect to the set-up of surveys on sediment transport and the evaluation of aspects like: organisation, equipment, processing of data and network optimization.

1985 - 1988

• Bangladesh, Burma, China, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka and Thailand

**Name of assignment or project:** ESCAP on required IWT training in Asia

**Client:** ESCAP/UN

**Main project features:** Inventarization of bottlenecks in IWT development in the region

**Position held:** Member advisory team

**Activities performed:** Study and advice

1987 - 1988

• **The Netherlands**

**Name of assignment or project:** Research on computer simulations of inland waterway transport systems including cargo, vessels, fairway, locks, bridges, etc.

**Client:** Delft Hydraulics

**Main project features:** research for software development

**Position held:** Navigation specialist

**Activities performed:** Study and modelling

1987 - 1990

• **Thailand/Laos PDR**

**Name of assignment or project:** Mission on the hydro-meteorological network in the Mekong River Basis (for the Mekong Secretariat.)

**Main project features:** Implementation of network optimization

**Position held:** River Engineer

**Activities performed:** Advisory work in situ.

1986 - 1989

• **India**

**Name of assignment or project:** Ganga River Navigation Pilot Study

**Client:** IWA

**Main project features:** Design and implementation of pilot works for river management and erosion control to enabling navigation between Allahabad and Patna.

**Position held:** Project Manager

**Activities performed:** Consultancy and training on survey and river engineering aspects such as: survey equipment, test dredging, bandalling, bed-levelling (low cost dredging), trial navigation, navigational aids, mathematical modelling, set-up of data base management system.

1986

• **The Netherlands**

**Name of assignment or project:** modelling of navigability

**Client:** Delft Hydraulics

**Main project features:** Study and Survey

**Position held:** Navigation Specialist

**Activities performed:** Analyses and mathematical description of hydraulic forces generated by vessels manoeuvring near a quay (cushion effects) or in a canal (bank suction effects).

1986

- **The Netherlands**

**Name of assignment or project:** IWT Training Brasil

**Client:** Delft Hydraulics

**Main project features:** Programming/Outlining of support

**Position held:** IWT Expert

**Activities performed:** Setting up of a training programme to strengthen the research institute INPH, Brazil, within the field of IWT.

1986

- **The Netherlands**

**Name of assignment or project:** Forces on vessels in locks

**Client:** Delft Hydraulics

**Main project features:** Fundamental research on salt induces forces on vessels

**Position held:** Researcher

**Activities performed:** Analysis and mathematical description on the effects of a pneumatic barrier on the salt intrusion through a navigation lock. Description of forces on vessels entering or leaving such locks (passing the various salt water air mixtures).

1985

- **India**

**Name of assignment or project:** Pre-study on navigability pilot project

**Client:** IWAI

**Main project features:** Outlining the approach of a navigability pilot project

**Position held:** Member

**Activities performed:** Preparation of a work plan for the pilot project for the navigability of the Ganga river, Allahabad-Patna stretch. Aspects involved: Bandalling, test dredging, channel marking, barging, barge-trials, surveying, training and institutional support.

1985

- **Venezuela**

**Name of assignment or project:** Orinoco River Navigation Study

**Client:** Ministry of Transport

**Main project features:** Navigation study including survey and navigation trials

**Position held:** River Engineer

**Activities performed:** Advices on channel marking, river morphology, river training, navigation, surveying and organisation.

1985

- **The Netherlands**

**Name of assignment or project:** High Head Dam, Maroc

**Client:** Min. of Energy

**Main project features:** Designing the details of a spillway in a high head dam

**Position held:** Modeller

**Activities performed:** Scale model investigations on the design of air slots in a spillway of a high head dam.

1985

- **India**

**Name of assignment or project:** DVC-Canal Reactivation Study, India

**Client:** IWAI

**Main project features:** reactivating an existing navigation cum irrigation canal





**Position held:** Project Manager

**Activities performed:** Study on aspects: Morphology, discharge capacity, canal stability, navigational aids, fleet design, economy, etc.

1984 - 1985

- **The Netherlands**

**Name of assignment or project:** Bottom outlet High Head Dam Maroc

**Client:** Min. of Energy

**Main project features:** Scale model study on detailed design

**Position held:** modeller

**Activities performed:** Scale model investigations on the design of a bottom outlet in a high head dam with aspects such as water transport capacity, aeration, cavitation and gate control.

1983

- **The Netherlands**

**Name of assignment or project:** Density currents in locks

**Client:** Delft Hydraulics

**Main project features:** Fundamental research on impact of density currents on ships

**Position held:** Researcher

**Activities performed:** Scale model investigations on density currents in navigation locks with special attention on impact on lock doors and ships.

1983

- **Indonesia**

**Name of assignment or project:** Paiton Power Plant

**Client:** Volker-Stevin

**Main project features:** Field investigation for design of a power plant

**Position held:** Chief Surveyor

**Activities performed:** Execution of a coastal survey (tide, currents, waves, dye patch, salinity, etc.) in relation with the design of a power plant. Especially the location of near shore structures (harbour, intake, and outlets) was studied.

1983

- **Indonesia**

**Name of assignment or project:** Tidal Swamp Development

**Client:** Min. of Public Works of Indonesia

**Main project features:** Design of tidal irrigation/drainage schemes in the swamps of Indonesia with extensive survey and mathematical modelling.

**Position held:** Surveyor, later Team Leader

**Activities performed:** Set-up of a survey and study department within the Ministry of Public Works of Indonesia. Planning and execution of field surveys in rivers and swamps with respect to land reclamation, irrigation and navigation.

1977

- **Spain**

**Name of assignment or project:** Three men mission to Spain to contribute to a feasibility study on the enclosure of Guadalquivir.

**Client:** Public Works Departments

**Main project features:** Reviewing a plan to close the Guadalquivir and generating alternatives

**Position held:** Member

**Activities performed:** The study focussed on the conflicting interests of water borne transport (Between sea and the inland harbour of Seville) And irrigation. Aspects such as navigational capacity, bank protection, sedimentation, flood control and water quality played an important role.

1970 - 1977

- **The Netherlands**

**Name of assignment or project:** River engineering, navigation, modelling for design of river structures.

**Client:** a.o. Public Works Department

**Main project features:** Fundamental research and applied design

**Position held:** Project Engineer

**Activities performed:** Dealing with locks, weirs, sluices and hydro-surveys related projects. Research and development of computer programs for long wave phenomena in lower rivers (tidal motion, run-off and lock operation) and for ship manoeuvring simulations. Extensive scale model investigations of stilling basins (local scour), gate operation, sluices, siphons, river port and many details of structures.

## TEACHING ASSIGNMENTS

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| 1993 | • Bangladesh: Lecturing on the possible use of high-tech survey techniques on the main rivers of Bangladesh.   |
| 1990 | • India: Lecturing on development of information systems for IWT.  |
| 1990 | • Thailand: Lecturing on the validity of modelling for the operation and maintenance of inland waterways (UN ESCAP seminar).   |
| 1990 | • India: Country-level workshop on information statistical systems on IWT, Calcutta, (ESCAP).  |
| 1989 | • Thailand/Laos: Lecturing on tidal and non-tidal physics in rivers and related field surveys including practical training (First level training for senior hydrologists of the Mekong Secretariat). |
| 1987 | • The Netherlands: Lecturing on various aspects of IWT comparing the applied approaches in various IWT projects.   |
| 1986 | • The Netherlands: Lecturing on the kind of research applied within IWT projects: Lecturing on computer simulations of IWT and the use thereof for design work and feasibility studies.              |
| 1985 | • Indonesia: Lecturing on various aspects of surveying in tidal rivers.  |
| 1983 | • Indonesia: Workshop on tidal drainage.   |
| 1982 | • Indonesia: Workshop on numerical computations of water and salt motion.  |
| 1981 | • Indonesia: Workshop in tidal analysis.   |
| 1980 | • The Netherlands: Lecturing of execution of field measurements and elaboration's of results with the aid of programmable pocket calculators.  |
| 1979 | • Indonesia: Lecturing of basic hydraulics and salinity intrusion for senior staff of the Water Management Department and universities.  |

## Publications

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'On scale effects in modelling of syphons'  
Publication of Delft Hydraulics, 1976

Navigability of the Ganges  
Article in 'Natuur and Milieu', 1987

'Dredging in the off-take of Gorai and the Ganges'  
Article in Land and Water, 2001



## Languages

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Dutch	excellent
English	good
German	fair
French	fair
Bahasa Indonesia	fair